MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH (MDPH) – DIVISION OF STD PREVENTION (DSTDP)
2004 SEXUALLY TRANSMITTED DISEASES (STD) TREATMENT GUIDELINES

These guidelines for the treatment of STDs reflect the recommendations of the **MDPH-DSTDP** and of the **2002 CDC STD Treatment Guidelines**. These are outlines for quick reference that focus on STDs encountered in an outpatient setting and are not an exhaustive list of effective treatments. Please refer to the complete document of the CDC for more information or call the STD Program. Clinical and epidemiological services are available through your State STD Program and staff is also available to assist healthcare providers with confidential notification of sexual partners of patients infected with STDs and HIV. Please call the Division for any assistance at (617) 983-6940.

DISEASE	RECOMMENDED TREATMENT	ALTERNATIVES
SYPHILIS (see CDC guidelines for follow-up recommendations and management of congenital syphilis)		
PRIMARY, SECONDARY OR EARLY LATENT (< 1 YEAR) **Adults** **Children**	• Benzathine penicillin G 2.4 million units IM – **2 doses**, 1 week apart (total 4.8 million units) • Benzathine penicillin G 50,000 units/kg IM, up to the adult dose of 2.4 million units – **2 doses**, 1 week apart	(**For penicillin allergic non-pregnant adult patients only**) • Doxycycline 100 mg orally 2 times a day for 14 days ***OR*** ceftriaxone 1 g daily IV or IM for 8-10 days ***OR*** azithromycin 2 g orally single dose (should be avoided[1])
LATE LATENT (> 1 YEAR) OR LATENT OF UNKNOWN DURATION **Adults** **Children**	• Benzathine penicillin G 2.4 million units IM **for 3 doses**, 1 week apart (total 7.2 million units) • Benzathine penicillin G 50,000 units/kg IM up to the adult dose of 2.4 million units, administered as three doses at 1 week intervals (total 150,000 units up to the adult total dose of 7.2 million units)	• Doxycycline 100 mg orally 2 times a day for 28 days **for adults only**
NEUROSYPHILIS	• Aqueous crystalline penicillin G 18 - 24 million units per day, administered as 3-4 million units IV every 4 hours or continuous infusion, for 10-14 days	• Procaine penicillin 2.4 million units IM once daily **plus** probenecid 500 mg orally 4 times a day, both for 10-14 days
HIV INFECTION	• **For primary, 2nd and early latent syphilis**: Treat as above. Some specialists recommend three doses. • **For late latent syphilis or syphilis of unknown duration**: Perform CSF examination before treatment.	
PREGNANCY	**Penicillin is the only recommended treatment for syphilis during pregnancy. Women who are allergic should be desensitized and then treated with penicillin. Dosages are the same as in non-pregnant patients for each stage of syphilis.[2]**	
GONOCOCCAL INFECTIONS [3]		
ADULTS **CERVIX, URETHRA, RECTUM** **PHARYNX** **CONJUNCTIVA**	**Ceftriaxone 250 mg IM is the preferred regimen for the treatment of uncomplicated gonococcal infections in Massachusetts.** **Ceftriaxone is highly effective at all anatomical sites**. Unless antibiotic susceptibility testing performed on a positive culture excludes resistance to quinolone, MA DPH no longer recommends the use of quinolones for the presumptive treatment of gonorrhea or treatment based on a non-culture test result[4]. • Ceftriaxone 1 g IM once plus lavage the infected eye with saline solution once	**If allergy:** • Spectinomycin[5] 2 g IM once The above regimen is **not effective to treat pharyngeal gonorrhea.** . • Azithromycin 2 gm orally once Preferred alternative for the treatment of pharyngeal gonorrhea
CHILDREN (<45KG) VAGINA, CERVIX, URETHRA, PHARYNX, RECTUM	• Ceftriaxone 125 mg IM once	• Spectinomycin[5] 40mg/kg IM once (maximum 2 g)
NEONATES Ophthalmia Neonatorum[6] Infants born to infected mothers	• Ceftriaxone 25-50 mg/kg IV or IM once (maximum 125 mg)	
PREGNANCY	• Ceftriaxone 125 mg (or 250 mg – see footnotes) IM once	• Spectinomycin[5] 2 g IM once
CHLAMYDIAL INFECTIONS		
ADULT	• Azithromycin 1 g orally single dose ***OR*** • Doxycycline 100 mg orally 2 times a day for 7 days	• Erythromycin base 500 mg orally 4 times a day for 7 days ***OR*** • Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days ***OR*** • Ofloxacin[7] 300 mg orally 2 times a day for 7 days ***OR*** • Levofloxacin[7] 500 mg orally once a day for 7 days
CHILDREN **≤ 45 KG** ----------→ **≥ 45 KG AND < 8 YEARS OF AGE** ----------→ **≥ 8 YEARS OF AGE** ----------→	• Erythromycin base or ethylsuccinate 50 mg/kg/day orally divided into four doses daily for 14 days[8] • Azithromycin 1 g orally single dose • Azithromycin 1 g orally single dose ***OR*** • Doxycycline 100 mg orally 2 times a day for 7 days	
PREGNANCY	• Erythromycin base 500 mg orally 4 times a day for 7 days ***OR*** • Amoxicillin 500 mg orally 3 times a day for 7 days	• Erythromycin 250 mg orally 4 times a day for 14 days ***OR*** • Erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days (or 400 mg 4 times a day for 14 days) ***OR*** • Azithromycin 1 g orally single dose

[1] Treatment failures with azithromycin have been reported in 2003 and are being investigated (MMWR 2004;53:197-8). *T. pallidum* strains resistant to azithromycin have recently been documented (NEJM 2004;351:454-8.). **Doxycycline is the preferred alternative.** If neither penicillin nor doxycycline can be administered**,** and azithromycin is considered, providers should contact the STD Division and inform patients that cases of resistance have been found and that a close follow-up is essential to ensure successful treatment.

[2] Tetracycline/doxycycline contraindicated; erythromycin not recommended because it does not reliably cure an infected fetus; data insufficient to recommend azithromycin or ceftriaxone.

[3] Treat also for *Chlamydia trachomatis* if not ruled out by a sensitive test.

[4] Quininolone resistant gonorrhea cases continue to rise in MA. If a quinolone was used for treatment of gonorrhea, a test of cure is recommended at all exposed anatomical sites if a culture was not initially used to rule out resistance.

[5] Not effective against incubating syphilis. If you have difficulty in obtaining spectinomycin, contact Wendy Johnson, Pharmacia Corporation, at (800) 976-7741, ext 30110. Fax (800) 852-6421.

[6] Hospitalize and evaluate for disseminated infection.

[7] Quinolones are contraindicated in pregnant women. No joint damage attributable to quinolone therapy has been observed in children treated with prolonged ciprofloxacin regimens. Thus children who weigh ≥ 45 kg can be treated with any regimen recommended for adults.

[8] The efficacy of treating neonatal chlamydial conjunctivitis and pneumonia is about 80%. A second course of therapy may be required. An association between oral erythromycin and infantile hypertrophic pyloric stenosis (IHPS) has been reported in infants aged less than 6 weeks treated with this drug. See CDC guidelines for more information.

DISEASE	RECOMMENDED TREATMENT	ALTERNATIVES
NONGONOCOCCAL URETHRITIS	• Azithromycin 1 g orally single dose ***OR*** • Doxycycline 100 mg orally 2 times a day x 7 days	• Erythromycin base[9] 500 mg orally 4 times a day for 7 days ***OR*** • Erythromycin ethylsuccinate[9] 800 mg orally 4 times a day for 7 days ***OR*** • Ofloxacin[7] 300 mg orally 2 times a day for 7 days ***OR*** • Levofloxacin[7] 500 mg orally once a day for 7 days
EPIDIDYMITIS[10]	• Ceftriaxone 250 mg IM single dose **PLUS** • Doxycycline 100 mg orally 2 times a day for 10 days	• Ofloxacin[10] 300 mg orally twice daily for 10 days ***OR*** Levofloxacin[10] 500 mg orally once a day for 10 days
PELVIC INFLAMMATORY DISEASE[11] (outpatient management) **These regimens to be used <u>with or without</u> metronidazole 500 mg orally twice a day for 14 days**	• Ceftriaxone 250 mg IM once ***OR*** Cefoxitin 2 g IM once plus probenicid 1 g orally once ***OR*** Other third generation cephalosporin **PLUS** • Doxycycline 100 mg orally 2 times a day for 14 days	• Ofloxacin[11,7] 400 mg orally 2 times a day for 14 days ***OR*** Levofloxacin[11,7] 500 mg orally once a day for 14 days
PREGNANCY AND PID	**Patients should be hospitalized and treated with the appropriate recommended parenteral IV treatments (see CDC guidelines)**	
CHANCROID	• Azithromycin 1 g orally single dose ***OR*** • Ceftriaxone 250 mg IM single dose ***OR*** • Ciprofloxacin[7] 500 mg orally 2 times a day for 3 days ***OR*** • Erythromycin base 500 mg orally 3 times a day for 7 days (preferred by some experts if HIV infection)	
HERPES SIMPLEX VIRUS (for non-pregnant adults). See CDC 2002 guidelines for the management of herpes in pregnancy and in the neonate		
First clinical episode of genital herpes	• Acyclovir 400 mg orally 3 times a day for 7-10 days ***OR*** 200 mg orally 5 times a day for 7-10 days ***OR*** • Valacyclovir 1 g orally 2 times a day for 7-10 days ***OR*** • Famciclovir 250 mg orally 3 times a day for 7-10 days	
Episodic Recurrent Infection	• Acyclovir 800 mg orally 2 times a day for 5 days ***OR*** 400 mg orally 3 times a day for 5 days ***OR*** 200 mg orally 5 times a day for 5 days ***OR*** • Famciclovir 125 mg orally 2 times a day for 5 days ***OR*** • Valacyclovir 500 mg orally 2 times a day for 3-5 days ***OR*** 1 g orally once a day for 5 days	
Daily Suppressive therapy	• Acyclovir 400 mg orally 2 times a day ***OR*** • Valacyclovir 500 mg orally once a day ***OR*** 1 g orally once a day ***OR*** • Famciclovir 250 mg orally 2 times a day	
HIV INFECTION	Higher doses and/or longer therapy recommended. See 2002 CDC guidelines.	
PEDICULOSIS PUBIS	• Permethrin 1% cream rinse applied to affected area and washed off after 10 minutes ***OR*** • Lindane[12] 1% shampoo applied for 4 minutes to the affected area then thoroughly washed off ***OR*** • Pyrethrins with piperonyl butoxide applied to affected area and washed off after 10 minutes	
SCABIES	• Permethrin 5% cream applied to all areas of the body from the neck down and washed off after 8-14 hours	• Lindane[12] 1% 1 oz of lotion or 30 g of cream applied thinly to all areas of the body and thoroughly washed off after 8 hours ***OR*** • Ivermectin[12] 200ug/kg orally, repeated in 2 weeks
BACTERIAL VAGINOSIS (BV)	• Metronidazole[13] 500 mg orally 2 times a day for 7 days ***OR*** • Clindamycin cream 2% intravag. at bedtime for 7 days ***OR*** • Metronidazole gel 0.75% intravag. once a day for 5 days	• Metronidazole[13] 2 g orally in a single dose ***OR*** • Clindamycin 300 mg orally 2 times a day for 7 days ***OR*** • Clindamycin ovules 100 g intravag. at bedtime for 3 days
PREGNANCY AND BV[14]	• Metronidazole[13] 250 mg orally 3 times a day for 7 days ***OR*** • Clindamycin 300 mg orally 2 times a day for 7 days	
TRICHOMONIASIS	• Metronidazole[13] 2 g orally single dose	• Metronidazole[13] 500 mg orally 2 times a day for 7 days

GENITAL WARTS

External	Urethral Meatus	Vaginal	Anal	Oral
• **PROVIDER-ADMINISTERED** **Cryotherapy** with liquid nitrogen or cryoprobe. Repeat applications every 1-2 weeks if necessary ***OR*** **Trichloroacetic acid (TCA) or bichloroacetic acid (BCA)** 80% - 90%. Apply small amount only to warts. Allow to dry. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary ***OR*** **Podophyllin resin 10%-25%[15]** in a compound tincture of benzoin. Allow to air dry. Limit application to < 10 cm^2 and to ≤ 0.5 ml. Wash off 1-4 hours after application. Repeat weekly if necessary ***OR*** **Surgical removal** • **PATIENT-APPLIED** **Podofilox 0.5% solution or gel[15]**. Apply 2 times a day for 3 days, followed by 4 days of no therapy. This cycle can be repeated as necessary for up to 4 times. Total wart area should not exceed 10 cm^2 and total volume applied daily not to exceed 0.5 ml. ***OR*** **Imiquimod 5% cream[15]**. Apply once daily at bedtime 3 times a week for up to 16 weeks. Wash treatment area with soap and water 6-10 hours after application.	**Cryotherapy** with liquid nitrogen ***OR*** **Podophyllin 10%-25%[15]** in a compound tincture of benzoin. Treatment area must be dry before contact with normal mucosa. Repeat weekly if necessary.	**Cryotherapy** with liquid nitrogen. Cryoprobe not recommended (risk of perforation and fistula formation) ***OR*** **TCA or BCA 80%-90%**. Apply small amount only to warts. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary.	**Cryotherapy** with liquid nitrogen ***OR*** **TCA or BCA 80%-90%.** Apply small amount only to warts. If excess amount applied, powder with talc, baking soda or liquid soap. Repeat weekly if necessary.	**Cryotherapy** with liquid nitrogen ***OR*** **Surgical removal**

[9] If this dose cannot be tolerated, than erythromycin base 250 mg orally or erythromycin ethylsuccinate 400 mg orally 4 times a day for 14 days can be used.

[10] The recommended regimen of ceftriaxone and doxycycline is for epididymitis most likely caused by gonococcal or chlamydial infection. Given the increase in quinolone resistant gonorrhea, the alternative regimen of ofloxacin or levofloxacin is recommended if epididymitis is most likely caused by enteric Gram-negative organisms.

[11] Because of the increase of quinolone resistant gonorrhea, using a quinolone alone to initiate treatment of PID should be avoided. Whether the management of immunodeficient HIV-infected women with PID requires more intensive treatment has not been determined.

[12] Lindane not recommended for pregnant and lactating women or for children < 2 years of age. Ivermectin not recommended for pregnant and lactating women or children who weigh < 15 kg.

[13] Multiple studies and meta-analysis have not demonstrated a consistent association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns.

[14] Screening for, and treatment of, BV in pregnant women at high risk for premature delivery is recommended by some experts and should occur at the first prenatal visit. Intravaginal treatment during pregnancy (at high or low risk for premature delivery) not recommended.

[15] Safety during pregnancy **not** established.